

Spectral properties of weighted composition semigroups on the Bloch space

Samuel Mose, Job Bonyo and Isaac Okoth
Maseno University, Kenya.

We determine both the semigroup and spectral properties of a group of weighted SBS composition operators on the Little Bloch space. It turns out that these are strongly continuous groups of invertible isometries on the Bloch space. We then obtain the norm and spectra of the infinitesimal generator as well as the resulting resolvents which are given as integral operators. Using the spectral mapping theorem as well as the Hille Yosida theorem we obtain the spectral properties of the resulting integral operators.

Keywords: Composition operator; Analytic functions; One parameter semigroup; Infinitesimal generator; Spectrum and resolvent; Adjoint group; Non-reflexive Bergman space; Bloch space; Little Bloch space.